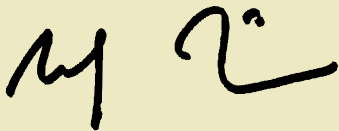


Message from the Vice President
of Strategy and Technology,
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In a world in which information technology (IT) permeates all aspects of modern life, it becomes increasingly important that IT systems respond promptly to an event or a collection of events. There are many examples of such systems, some of which are studied in detail in this issue of the *IBM Systems Journal*: command-and-control systems for defense applications, massively multiplayer online games, control systems in health care and manufacturing, and business information systems for financial applications such as banking and stock trading. We refer to such systems as *responsive systems*, a term in which we include real-time and event-based systems.

Because computer networks have been growing larger over time and because the volume of events generated by the distributed applications they host has been increasing at a fast pace, developers have turned to the use of advanced methods for designing and implementing new event-processing applications. These methods, which include improved message-oriented middleware services, service-oriented architectures, and component-based techniques for software development, lower the costs of developing and deploying responsive applications.

This issue of the *Journal* is intended to raise the awareness of the growing demand for responsive systems, and of the resulting challenges for providers of platforms, middleware, and tools. Responsiveness as a principal characteristic of large systems poses unique challenges for modeling, simulating, designing, and implementing such systems. The papers in this issue of the *Journal* take the reader to the forefront of the research into these areas and offer insight into promising approaches for designing responsive systems.



Dr. Kristof Kloeckner